CLAIMS:

1.   A method comprising:

selecting one of a plurality of tunnel termination devices based on weightings associated with the tunnel termination devices; and

establishing a network tunnel with the selected tunnel termination device.

2.   The method of claim 1, further comprising calculating the weightings based on a resource constraint associated with the respective tunnel termination device.

3.   The method of claim 2, wherein calculating the weightings comprises calculating the weightings based on a maximum number of subscriber sessions supported by each of the tunnel termination devices.

4.   The method of claim 1, further comprising assigning the weightings to the tunnel termination devices based on user input.

5.   The method of claim 1, wherein selecting a tunnel termination device comprises:

receiving tunnel definitions that associate the tunnel termination devices with preference levels;

selecting one of the preference levels;

identifying a subset of the tunnel termination devices associated with the selected preference level;

calculating the weightings for the subset of the tunnel termination devices; and

selecting one of the tunnel termination devices of the subset based on the calculated weightings.

6.   The method of claim 5, wherein calculating the weightings further comprises:

determining a maximum number of subscriber sessions supported by each of the tunnel termination devices of the subset; and

calculating the weighting associated with each of the tunnel termination devices of the subset as a function of the maximum number of subscriber sessions supported by each of the tunnel termination devices of the subset.

7.   The method of claim 1, wherein establishing a network tunnel comprises establishing a network tunnel in accordance with the Layer Two Tunneling Protocol (L2TP).

8.   The method of claim 1, wherein establishing a network tunnel comprises establishing one of a Multiprotocol Label Switching (MPLS) tunnel, a Generic Routing Encapsulation (GRE) tunnel, and an IP Security (IPSEC) tunnel.

9.   The method of claim 1, wherein establishing a network tunnel comprises establishing a network tunnel from an edge router to the selected tunnel termination device.

10.   The method of claim 1,

wherein selecting one of a plurality of tunnel termination devices comprises selecting one of a plurality of Layer Two Tunneling Protocol (L2TP) Network Servers (LNSs) based on weightings associated with the LNSs, and

wherein establishing a network tunnel comprises establishing an L2TP tunnel with the selected one of the LNSs.

11.   A method comprising:

selecting a set of tunnel termination devices from a plurality of tunnel termination devices based on a preference level;

calculating weightings associated with the tunnel terminations devices of the set based on a resource constraints for the respective tunnel termination device;

selecting one of the tunnel termination devices of the set based on the calculated weightings; and

establishing a network tunnel with the selected tunnel termination device.

12.   The method of claim 11, wherein calculating weightings comprises calculating respective weightings for the tunnel termination devices of the set as a function of a number of maximum subscriber sessions supported by each of the tunnel terminations devices of the set.

13.   The method of claim 12, wherein calculating weightings comprises assigning the weightings to the tunnel termination devices based on user input.

14.   The method of claim 11, further comprising:

determining whether a preference level fail-over setting is enabled upon failing to establish the network tunnel with the selected tunnel termination device; and

selecting a second one of the tunnel termination devices from the set of tunnel termination devices when the preference level fail-over option is enabled.

15. The method of claim 14, further comprising:

updating the preference level upon failing to establish the network tunnel and when the preference level fail-over option is disabled;

selecting a second set of tunnel termination devices from the plurality of tunnel termination devices based on the updated preference level;

calculating weightings associated with each of the tunnel termination devices of the second set based on resource constraints for the respective tunnel termination device; and

selecting one of the tunnel termination devices of the second set based on the calculated weightings.

16. The method of claim 11, wherein establishing a network tunnel comprises establishing a network tunnel in accordance with the Layer Two Tunneling Protocol (L2TP).

17. The method of claim 11, wherein establishing a network tunnel comprises establishing one of a Multiprotocol Label Switching (MPLS) tunnel, a Generic Routing Encapsulation (GRE) tunnel, and an IP Security (IPSEC) tunnel.

18. The method of claim 11, wherein establishing a network tunnel comprises establishing a network tunnel from an edge router to the selected tunnel termination device.

19. A network device comprising a tunneling module that load balances subscriber sessions across a plurality of tunnel termination devices based on a resource constraint associated with the tunnel termination devices.

20. The network device of claim 19, wherein the tunneling module load balances the subscriber sessions across the plurality of tunnel termination devices based on a maximum number of subscriber session supported by each of the tunnel termination devices.

21. The network device of claim 19, wherein the tunneling module assigns weightings to the plurality of tunnel terminations devices, and selects the tunnel termination devices as destinations for network tunnels in accordance with the assigned weightings.

22. The network device of claim 21 wherein the tunneling module calculating the weightings based on a maximum number of subscriber sessions supported by each of the tunnel termination devices.

23. The network device of claim 19, wherein the tunneling module assigns the weighting for each of the tunnel termination devices based on user input.

24. The network device of claim 19, further comprising:

an authorization manager that generates data identifying the plurality of tunnel termination devices and associating the plurality of tunnel termination devices with subscriber preference levels,

wherein the tunneling module load balances the subscriber sessions across the tunnel termination devices in accordance with the associated subscriber preference levels.

25. The network device of claim 19, wherein the tunneling module identifies a subset of the plurality of tunnel termination devices associated with a current one of the preference levels, calculates the weightings for the subset of the tunnel termination devices, and selects one of the tunnel termination devices of the subset based on the calculated weightings.

26. The network device of claim 19, wherein the tunneling module establishes network tunnels with the tunnel termination devices in accordance with the Layer Two Tunneling Protocol (L2TP).

27. The network device of claim 19, wherein the tunneling module establishes network tunnels with the tunnel termination devices in accordance with one of the Multiprotocol Label Switching (MPLS) protocol, the Generic Routing Encapsulation (GRE) protocol, and the IP Security (IPSEC) protocol.

28.   The network device of claim 19, wherein the network device comprises an edge router, and the tunneling protocol establishes network tunnels from the edge router to the tunnel termination devices.

29.   The network device of claim 19, wherein the network device comprises a Layer Two Tunneling Protocol (L2TP) Access Concentrator (LAC), and the tunnel termination devices comprise L2TP Network Servers (LNSs).

30.   A computer-readable medium comprising instructions to cause a processor to:
        select one of a plurality of tunnel termination devices based on weightings associated with each of the plurality of tunnel termination devices; and
        establish a network tunnel with the selected tunnel termination device.

31.   The computer-readable medium of claim 30, further comprising instructions to cause the processor to calculate the weightings for the tunnel termination devices based on resource constraints associated with the tunnel termination devices.

32.   The computer-readable medium of claim 31, further comprising instructions to cause the processor to calculate the weightings for the tunnel termination devices based on a maximum number of subscriber sessions supported by each of the tunnel termination devices.

33.   The computer-readable medium of claim 30, further comprising instructions to cause the processor to assign the weighting for each of the tunnel termination devices based on user input.

34. The computer-readable medium of claim 30, further comprising instructions to cause the processor to:

receive tunnel definitions that associate the tunnel termination devices with preference levels;

select one of the preference levels;

identify a subset of the tunnel termination devices associated with the selected preference level;

calculate the weightings for the subset of the tunnel termination devices; and

select one of the tunnel termination devices of the subset based on the calculated weightings.

35. The computer-readable medium of claim 34, further comprising instructions to cause the processor to:

determine a maximum number of subscriber sessions supported by each of the tunnel termination devices of the subset; and

calculate the weighting associated with each of the tunnel termination devices of the subset as a function of the maximum number of subscriber sessions supported by each of the tunnel termination devices of the subset.

36. The computer-readable medium of claim 30, wherein the instructions cause the processor to establish a network tunnel in accordance with the Layer Two Tunneling Protocol (L2TP).

37. The computer-readable medium of claim 30, further wherein the instructions cause the processor to establish one of a Multiprotocol Label Switching (MPLS) tunnel, a Generic Routing Encapsulation (GRE) tunnel, and an IP Security (IPSEC) tunnel.

38. The computer-readable medium of claim 30, wherein the instructions cause the processor to establish a network tunnel from an edge router to the selected tunnel termination device.

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39. A system comprising:

a subscriber device; and

an Internet Service Provider (ISP) comprising:

a Layer Two Tunneling Protocol (L2TP) Access Concentrator (LAC), and

a plurality of L2TP Network Servers (LNSs),

wherein the LAC applies a weighted load-balancing process to select one of the LNSs and establish an L2TP tunnel associated with the subscriber device with the selected one of the LNSs.

40. The system of claim 39, wherein the LAC applies the weighted load-balancing process by calculating weightings for the LNSs based on resource constraints associated with LNSs.

41. The system of claim 40, wherein the LAC calculates the weightings based on a maximum number of subscriber sessions supported by each of the LNSs.

42. The system of claim 39, wherein the LAC applies the weighted load-balancing process by assigning weightings to the LNSs based on user input.